



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/634,258 08/08/00 ALLEN

P 4926/ETEC

EXAMINER

MM91/0913

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ART UNIT

PAPER NUMBER

2881

DATE MAILED:

09/13/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

**Office Action Summary**

Application No.

09/634,258

Applicant(s)

ALLEN, PAUL C.

Examiner

Kalimah Fernandez

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 August 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other:

**DETAILED ACTION**

***Drawings***

New formal drawings are required in this application because the lines depicted in the figures do not comply with proper drawing standard. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the Patent and Trademark Office no longer prepares new drawings.

***Specification***

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Light modulator driven Photocathode electron beam source.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat No 5043630 issued to Faillon et al. Faillon discloses an electron gun having a luminous source (11) modulated by optical modulator (15) and a photocathode (16), which receives said modulated radiation (col.6, lines 1-40).
3. As per claim 2, Faillon discloses uv radiation (col.3, lines 57-63).

4. As per claims 13-14, the recited limitation is disclosed in col.6, lines 8-15.
5. Claims 3 and 15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Faillon. Faillon does not explicitly disclose the use of a mercury arc lamp. However, Faillon does disclose the use of lamp emitting non-coherent light (col.6, lines 4-7). It is had to be within the scope of Faillon's disclosure of said lamp to encapsulate mercury arc lamp. Moreover, a skilled artisan would reasonably assumed the use of a mercury arc lamp or silimar to carry out Faillon's invention.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 7-9 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faillon. Faillon explicitly teach the claimed invention except for an electron beam optical column. However, Faillon teach of his electron gun in association with "electron tubes, particle accelerators or any other application requiring a high-current electron beam pulsed at a high frequency" (see col.4, lines 57-63). It is general knowledge in the art and any relevant art that particle accelerators and the like are equipped with electron optics, therefore it is held that an artisan of ordinary skill would have it obvious to use Faillon's electron gun in a lithography, if so desired.

8. Claims 4,10,16 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faillon and in view of US Pat No 2668778 by Taft et al. As discussed Faillon teaches the claimed invention except for a cesium telluride photocathode. Taft is relied upon to illustrate that cesium telluride photocathode are well known in the art. Therefore, an artisan of ordinary skill would have found it obvious to incorporate a cesium telluride photocathode into Faillon's invention. Specifically, it is well known to use cesium telluride photocathode when an artisan desires high sensitivity to UV light, but insensitivity to visible light (i.e. outdoor conditions) (see col.1, lines 10-15).

9. Claims 5-6,11-12, 17-18 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faillon and in view of US Pat No 6282213 issued to Gutin et al. As discussed Faillon teaches the claimed invention except for micromirror array modulator.

10. However, Gutin teaches tunable diode laser using a micromirror array (col.3, lines 9-22).

11. Faillon teaches the use of a laser to carry out his invention (col. 1, lines 19-30 and figure 2). Therefore, an artisan of ordinary skill would have found motivation to incorporate into Faillon's invention, the teachings of Gutin at the time this invention was made.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalimah Fernandez whose telephone number is 703-


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305-6310. The examiner can normally be reached on Mon-Fri between 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teresa Arroyo can be reached on 703-308-4782. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

  
**JACK BERMAN**  
**PRIMARY EXAMINER**

kf  
September 7, 2001